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SOME CLINICAL OBSERVATIONS  
ON THE INSANE

by

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S C M E      C L I N I C A L      O B S E R V A T I O N S

O N    T H E    I N S A N E .

THYROID FEEDING IN INSANITY.

The introduction of the thyroid extract as a means of treatment in insanity was principally due to Lewis C. Bruce.

His plan of treatment\* has since been followed out in many cases of mental disease and with various results.

Up to December 1897 the recorded results of the thyroid treatment in insanity were as follows:- "Out of 78 cases of various forms of insanity, 18 recovered, of which 15 were permanent; 14 improved, of which 4 were permanent; 34 did not improve; 12 were affected prejudicially.\*\*

Bruce\*\*\* had 14 recoveries out of 25 cases treated; and no one has, as yet, published such good results.

Cross§, quite recently, recording only one recovery out of twenty cases.

\* Journ. Ment. Science, Jan. 1895.

\*\* Journ. Ment. Science, Jan. 1898.

\*\*\* Cp. Cit.

§ Edin. Med. Journ., Nov. 1897.

I used the extract in the form of tabloids<sup>as</sup>, prepared by Messrs. Burroughs, Wellcome & Co., each tabloid being equal to 5 grs. or 1/16th part of a fresh sheep's thyroid. Each patient was weighed and put to bed for two days before treatment, his bowels freely opened, and his temperature and pulse noted morning and evening.

The thyroid was administered for one week, and each patient was kept in bed for a week after the treatment was stopped. They received the ordinary asylum diet but were restricted to one "helping" only; and their bowels were attended to every second day.

All the cases reacted to the treatment, and the symptoms produced during the reaction were, as a rule, independent of the amount of pyrexia induced. Perspiration was generally the most marked feature in each case and was most pronounced in the small hours of the morning. The pulse quickened and its tension diminished; but in all cases it remained regular throughout. The evening temperature in all the cases (with the exception of Case VIII, where the conditions were reversed) was invariably higher than that of the morning. Those of the cases who were sensible complained of feeling "weak" after the treatment; and there was marked loss of weight in every instance.

The average amount of urine passed by each patient during the twenty-four hours was, if anything, slightly above the normal; and the amount of urea excreted - though I only estimated it in three cases - was also very little above the normal, and any excess was probably due to the pyrexia alone.

Bruce\*, finding that the percentage of haemoglobin and the number of red corpuscles were diminished in his cases as a result of the thyroid feeding, administered a bland preparation of iron in some of his cases along with the thyroid and with beneficial results.

I did not administer an haematinic in any of my cases on account of the condition of the tongue which remained furred throughout the treatment; and then again, the thyroid is itself liable to irritate the stomach.

I venture to think that if the patient, prior to treatment, be in fair bodily health and not the subject of cardiac debility, he is quite able to stand the drain on his system induced by the thyroid treatment, provided that the dose be not excessive.

In seven of the cases 45 grs. were adminis-

\* Cp. Cit., p. 63.

tered per diem and this dose was quite sufficient to produce the desired reaction without any marked circulatory or gastric disturbance.

In Case VIII 60 grs. were given per diem as this patient was apparently in splendid condition. Gastric irritation was produced; and anaemia was also a marked feature during convalescence. Of course the disturbance in this case may have been due merely to idiosyncrasy, and to draw a conclusion from only one case would be to generalise to a ridiculous extent. Case V had an interesting sequel. When the tongue had cleared, which it did very soon after the thyroid was stopped, Easton's, or Fellows' syrup was administered for a period of three weeks. Case VI had a few drops of tincture strophanthus added to the Easton, and Case VIII received digitalis and iron.

The following are the cases treated:-

CASE I.

C. McL., female, aged 60, admitted June 22, 1897, suffering from senile delusional melancholia, 2nd attack.

Personal and Family History.

Had an insane sister in another asylum.

Physical Condition.

She was a big woman in fairly good condition. Her thyroid gland was enlarged to about the size of a halved apple. There were no other symptoms of exophthalmic goitre.

Mental Condition.

Was very dull, apathetic and depressed. Reticent, and would only answer questions after a great deal of persuasion. She had delusions of a religious nature and said she was "utterly lost" etc. She took her food fairly well, but was sleepless and restless for the first three nights after admission and had to have paraldehyde administered to her. After this she slept naturally but her depression of spirits remained as before.

Thyroid Treatment.

Commenced July 11th, Dose - 45 grains per diem for seven days. Reacted to the treatment.



Temperature rose to 99°.6; pulse to 112 per minute, remaining regular throughout. Lost 12 lbs. in weight. No improvement was noted in her condition until the fourth day after stopping the thyroid. On this particular day she asked for some wool, and sitting up in bed, did some knitting. She said she felt much better, but "tired". Her face had a much brighter expression, and she laughed readily when chaffed.

She steadily improved; became a member of the sewing-party, and took a lively interest in all the odds and ends which go to make up an asylum life. She was sent over to the convalescent house about the middle of August, and finally discharged "recovered" on October 11th, 1897.

## CASE II.

M. McG., female, aged 24, admitted August 1896, labouring under acute puerperal mania.

### Personal and Family History.

Patient's mother is at present an inmate of the asylum, suffering from secondary dementia; and her sister is "dwarfed and deformed". Patient gave birth to an illegitimate child ten days before entering the asylum.

### Physical Condition.

On admission she had all the physical symp-

toms accompanying puerperal fever. From this she made a good recovery, and looked a well-developed woman. Her palate was highly arched and V-shaped. She also ceased to menstruate.

#### Mental Condition.

She very quickly recovered from her attack of mania and passed into a transitory stupor condition. She took her food well, gained in weight, and slept naturally. The stupor was gradually wearing off and she was making good progress, when, suddenly, she relapsed into a condition of excited melancholia with extreme restlessness, emotional excitement, refusal of food, and sleeplessness. She got over this attack, but it left her very enfeebled, both physically and mentally.

Although gaining in weight and health, her mental condition did not improve and she had another relapse which took the form of acute mania.

Mentally, she emerged from this attack still more enfeebled and the expression of her face was almost akin to that of secondary dementia. Although her physical condition greatly improved, no mental amelioration occurred.

#### Thyroid Treatment.

Commenced July 10, 1897. Dose 45 grs. per diem for seven days.

She shewed marked reaction, perspiration being very pronounced. Her temperature did not rise above 99°.6 but remained at an average of 99° for four days after the thyroid was stopped; the perspiration did not continue to the same extent as before, during these four days. She lost 11 lbs. in weight. She became excited and hilarious during the treatment, singing and chattering incoherently.

In this case mental improvement set in very rapidly, and, though she was a little taciturn and reserved to begin with, she soon became communicative and tolerably coherent. Her menstrual flow also returned. In a little over three weeks from the cessation of treatment she wrote a very sensible letter to her father, using very few of these automatic and conventional phrases which give a turn of sanity to the correspondence of some chronic lunatics. Her mental improvement steadily progressed and she became one of the most useful members of the asylum community.

After a stay of two months in the convalescent villa, she was discharged "recovered", November 6, 1897.

She is now - January 1898 - in service in London, and "doing exceedingly well."

CASE III.

J. A. R., female, aged 28, admitted February 11, 1891, being then 21 years of age - suffering from adolescent mania.

Personal and Family History.

No history of insanity in the family. Had "been queer" for 3 years before admission, being morbidly religious and eccentric in conduct. Becoming unmanageable at home she was sent to the Asylum.

Physical Condition.

Bodily condition good. Menstruated regularly.

Mental Condition.

On admission she was restless, excited, and had all sorts of religious delusions; saying she was the "lamb of God", etc ., She did not improve and passed into a form of melancholic stupor, but with occasional outbursts of intense erotic excitement at her menstrual periods, and was also given to masturbation during these periods of erotism.

Up to July 1897 she continued with no improvement in her condition; the stupor element, to a more or less extent, had left her and she appeared to be merging into secondary dementia with occasional outbursts of erotism. She hardly ever spoke, and

when she did, her answers to questions were irrelevant and incoherent. She could not be persuaded to do any kind of work, but sat sucking her fingers and "making eyes" all day long; was also dirty in her habits, and had to be "raised" regularly at night.

#### Thyroid Treatment.

She was now put on thyroid, 45 grs. per diem for 7 days. Reacted. Temperature rose on 5th day to 100°.8. Pulse rate did not exceed 100 per minute, its rhythm and tension also remaining good throughout. She became sexually excited during treatment and was observed to masturbate frequently. This circumstance may have been due to the increased flow of blood to the pelvis induced by the pyrexia, the perspiration would also form an exciting element. She was more excited at night. Her loss of weight during treatment was 11 lbs.

Fourteen days after the cessation of the thyroid, she had her menstrual period, ~~and~~ had slight menorrhagia, and was again excited. (Nothing abnormal could be made out in the condition of her genital organs.) Very soon after this menstrual period a perceptible improvement was noticed in her mental condition, and, in contradistinction to her former state, she gradually became cleanly in her habits and tidy in her person. She is now a good "ward helper", does what she is told and altogether is a different

woman, in these respects. But she is still somewhat demented, her facial expression is not very intelligent, and, though her speech is now quite coherent and to the point, her memory is very defective.

Her periods of erotic excitement have disappeared, but her manner is still slightly tinged with erotism periodically every month.

I think one is justified in saying that this case was greatly benefited by the thyroid.

#### CASE IV.

J. W., male, present age 23, admitted March 17, 1896, suffering from adolescent insanity. 2nd attack.

#### Personal and Family History.

No history of insanity in the family could be elicited. His father said he had been a "queer obstinate lad" since the age of 15.

#### Physical Condition.

Much under the average in height and rather run-down. He had the objective and subjective symptoms of a masturbator - though this was not definitely found out.

Mental Condition.

On admission he was in a state of semi-melancholic stupor. Though he took his food well and gained in weight, his mental condition did not improve, and, although he was able to go out and work with the "barrow-party", he performed his simple duties like an automaton. He never spoke to anybody, and seemed always to be wrapped in a condition of semi-stupor.

Thyroid Treatment.

November 1897. 45 grs. per diem for 7 days. Temperature did not rise above 100°. Pulse rate increased to 106 per minute and was rather feeble in tension - he had the sluggish circulation seen in adolescent cases with stupor. He became rather restless and excited during treatment with constant muttering of incoherent jargon. Perspiration was, as usual, a marked feature; and he lost 9 lbs. in weight. He relapsed back into his former stupor condition in the week following the stopping of the thyroid.

He was not quite so well on getting up and was troublesome with his food for a day or two. This soon passed away and he quickly regained his former weight, and is now in the same mental condition as he was before treatment.



CASE V.

W. McE., male, present age 23, admitted October 16, 1896 suffering from delusional melancholia.

Personal and Family History.

He has a paternal uncle in the asylum labouring under secondary dementia. Patient complained a great deal about his head when a child - he had not had "convulsions", so far as could be found out.

At the age of 19 he received a kick on the head at football, after which he developed a "very bad temper" and had evidently little power of self-control. He was well known as a football-player of some eminence, but, on account of his shewing his bad temper on the field, he was very soon refused admission to his team. He sulked after this, becoming moody and introspective, refused to go to his work, staying in the house all day doing nothing but "sitting on a chair thinking". Having expressed suicidal feelings, he was certified and sent to the asylum.

Physical Condition.

He is rather a strumous-looking lad, with some enlarged glands in his neck, and some consolidation at the apex of his left lung. Is undersized, and has a neurotic palate. There is nothing abnormal in the external configuration of his head.



Mental Condition.

On admission he had delusions of persecution chiefly directed against his fellow-workmen (coach painters). In December 1896 he passed into a modified form of melancholic stupor, being taciturn, resistive and occasionally restless, and would perambulate his corridor for an hour or two on end. He was liable to sudden outbursts of passion and at these times would strike anybody near him without provocation.

He developed hallucinations of sight and hearing; and sometimes, while sitting quietly in a chair, would suddenly jump up, run into a corner of the room, crouch down, and point with his finger in an upward direction.; his facial expression on these expressions on these occasions was one of terror, and he also perspired freely. Throughout all this performance he was never known to utter a word. His naso-labial folds were flattened and almost effaced, and he kept his cheeks "puffed out" with unswallowed saliva.

In six months he had somewhat improved. He was facile and less impulsive and had been given a trial with a "working-party". He went about his work oblivious to almost everything, and, though only wheel-

ing a barrow, had to be guided to his destination. He had always taken his food well, and was not troubled with sleeplessness.

#### Thyroid Treatment.

Commenced November 29, 1897. 45 grs. per diem for 7 days. Pyrexia slight, temperature not rising above 99°.2. Pulse-rate did not exceed 90 per minute, and remained regular throughout. Perspiration very marked.

On the evening of the 5th day he was noticed to be muttering to himself. On the morning of the 6th day he awoke, - as it were, - from his former condition of lethargy and looked a different individual altogether. He was very garrulous, sitting up in his bed nearly all day and addressing any person who came near him. He answered questions very readily; and his answers were, on the whole, tolerably coherent. He did not know where he was and knew nothing of his life since his admission to the asylum in 1896 - all of this time being, apparently, a blank to him. But he remembered all the circumstances of his life previous to admission remarkably well; telling us the names of his old friends and neighbours, etc. He also told us he had "an uncle in Murthly Asylum." He was told where he was and that he had been ill for some time, but he took no notice of the information.

He continued in this condition of mild excitement for only other 24 hours, when he relapsed into his former condition of stupor, and has remained so ever since.

On the 7th day after stopping the thyroid, and while he was still confined to bed, he had an epileptic seizure. The convulsions were preceded by the "epileptic cry", and had all the characters of grand mal. During the seizure he passed his urine and faeces. He was unconscious for some time after the fit. There had been no albumen in his urine, and his bowels had been moving regularly. His temperature rose after the attack to 99°.8, but soon subsided.

He was kept in bed for another week and then allowed up, and, although he has been under special observation ever since, he has not been known to have had another attack, nor has he been under epileptic treatment - that is as far as drugs are concerned.

Was his seizure of the nature of true epilepsy? His sudden acts of impulsiveness and the terrifying character of his hallucinations were rather akin to those of an epileptic patient.

Or were the convulsions toxic in their origin? and induced either by the accumulation of the

the thyroid in the blood or by its deteriorating influence on the constituents of the blood. The patient was not to any extent anaemic after treatment. On the other hand, Clouston\* speaks of the occasional occurrence of "epileptiform fits" in "stuporose conditions".

Physically, the patient is now stronger and heavier than he was before treatment, but mentally he remains in a condition of semi-stupor, subject to the same sudden, motor outbursts as before. He sometimes speaks, but what he utters is mere jargon.

#### CASE VI.

A.M., male, present age 27. Admitted November 23, 1893. Presumed to be now labouring under secondary dementia following on an attack of adolescent mania. There was an element of congenital "weakness of mind" in his case.

#### Personal and Family History.

No history of insanity in the family obtainable. Patient had been "peculiar" since birth, and had always been wilful and mischievous .

\* "Mental Diseases" 3rd edit. p.300.

Physical Condition.

Highly arched palate, and teeth all crowded together. Head badly shaped and very long in vertical axis. Ears wing-like. He was generally of uncouth build. No apparent signs of bodily disease.

Mental Condition.

Before admission "he attempted to poison his sisters by putting soap in their tea" and was occasionally "violent".

He improved in the asylum and went out to work on the farm, but remained shy and backward, and appeared to be normally weak-minded. He was fairly tidy in his habits, but was a slouching, sly sort of fellow; he had almost no memory, took no healthy interest in anything and appeared to have no moral backbone at all; had a very bad temper and occasionally struck his fellow-patients. He was cowardly, and assaulted only those who were smaller than himself and he took care that no one was watching him. Mentally, he had just missed being an imbecile.

Thyroid Treatment.

Commenced December 1, 1897. 45 grs. per diem for six days. Temperature rose to 99°.6 (4th

day). He had, naturally, not a very strong pulse, but it remained at very fair tension throughout. The thyroid was stopped on the 6th day, on account of the excessive perspiration present.

He became very restless during treatment, flinging the bed-clothes about and had to have an attendant beside him to keep him in bed. The excitement subsided after treatment was stopped. Lost 4 lbs. in weight. No mental improvement occurred in his case, and at the present time (March 1898) he is in the same enfeebled mental condition as formerly. Physically, he enjoys very good health and works on the farm daily.

#### CASE VII.

E.K. female, married, aged 28, admitted March 29, 1897, suffering from acute puerperal mania.

#### Personal and Family History.

No family history of insanity obtainable. This was her second attack, the first being two years ago. She had had a large family in rapid succession.

#### Physical Condition.

On admission was anaemic and run-down, and had the cardiac murmurs of anaemia. Her physical condition rapidly improved under treatment, her

anaemia and debility disappeared, and she gained in weight to the extent of 14 lbs.

#### Mental Condition.

On admission she was excited, restless, and incoherent. The feverish disturbance was slight and she was soon able to get out of bed, and eventually outside. Her mental condition did not improve. She did not pass into a state of simple transitory stupor as on the occasion of her former mental derangement.

She readily answered you, but her answers were ridiculously irrelevant; she was unable to read the simplest words; had no memory; never asked for her husband or any of her friends; and slowly became dirty and untidy in her habits. She used to sit on the same chair, day after day, at times looking very depressed and with her eyes filled with tears, at other times very happy and smiling good-naturedly at every person. No improvement occurred up to December, and her mental outlook looked gloomy.

#### Thyroid Treatment

Commenced December 4, 1897. 45 grs per diem for 7 days. Reaction well marked. Perspiration was very pronounced, the patient's bedclothes being quite soaked on more than one occasion. Temperature rose to 100°.8 (3rd day). Pulse remained steady throughout, its rate did not exceed 100 per minute.



Signs of mental improvement were noted as early as the 5th day, on which date she answered some questions with tolerable coherency. Two days later she read some little bits of "The Scotsman" to me, stumbling only over the pronounciation of some proper names. She knew the names of all the patients occupying the same room as herself, and also the names of some of the nurses. (She had been inquisitive, had asked questions, and had remembered what she had been told.)

The first day she was allowed up she wrote a very good letter (the first since her admission) to her husband, who came out to see her a day or two later and was pleased at seeing her looking so well. She had lost 6 lbs. in weight during treatment.

She steadily improved, became cleanly and tidy in her habits and was sent over to the convalescent house in the beginning of February, and, while resident there, was an industrious worker at all household duties. She was finally discharged "recovered" on March 3, 1898.

#### CASE VIII.

J.M.R., female, aged 23, admitted December 11, 1898, suffering from adolescent insanity.



Personal and Family History.

Nothing mentally peculiar was noticed in her till three months before admission, when she became suddenly very religious, reserved and irritable on small matters. She then developed delusions on religious matters, became violent and was brought to the asylum.

She had a sister who was described as being "very nervous", and three of her aunts, who regularly visit her here, are all extremely eccentric. No actual history of insanity obtained.

Physical Condition.

A stout, well-developed girl, but with rather a strumous type of face. Her facial expression was rather stupid and unintelligent and her eyes were wide apart, and the bridge of her nose was undeveloped. Palate normal. No signs of bodily disorder.

Mental Condition.

On admission was in a state of simple mania, slightly hilarious, and chattered incoherently on religious topics principally. She was also erotic. She was treated with small doses of Sulphonal and quickly improved, and in six weeks was quiet enough to be sent over to the convalescent house.

The character of her delusions changed,

and she now imagined herself to be a lady of wealth and position. She wrote most amusing letters home, informing her friends that she was "engaged to Prince Edward of York", and asking them to address her in future as "The Hon." She was unsociable and haughty in her manner with her fellow-patients, and once or twice had to be sent back to the main building on account of her having assaulted one or two of them. She had a quick temper and was rather a nasty patient when excited, as she would smash anything near her. She was shy and reserved in the presence of the male sex, but there was a curious vein of erotism on the surface of her absurd modesty. She remained in this state up to December 1897.

#### Thyroid Treatment.

Commenced January 13, 1898. 60 grs. per diem for 7 days. Reacted. As in the former cases, perspiration was the most marked feature. Temperature 99°.4 (3rd day). Pulse remained regular and of fair tension throughout, highest rate recorded being 104 per minute. In this case the temperature, as a rule, was higher in the morning than in the evening, and the pulse corresponded.

She vomited twice on the 5th day and complained of abdominal pain; her ordinary diet was

stopped for the next 48 hours, and she received milk and lime water instead. No mental excitement occurred during treatment. Loss of weight - 10 lbs.

Four days after cessation of treatment, and while she was still in bed, pronounced oedema of the ankles was noticed accompanied by the general symptoms of anaemia and a systolic murmur at the base of the heart. These symptoms soon disappeared under suitable treatment and the elevation of the foot of her bed.

No mental improvement was noticed until another week had elapsed. She gradually became less fanciful and more sociable than formerly; and, though her grandiose notions still persisted to a slight extent, in her letters, her manner was natural and unrestrained.

Her letters are now sensible and free from peculiarities; she is an industrious knitter and a useful patient. But there is still "something wanting" in her; and she is slow and childlike in some of her ways. Her temper is greatly improved and she is not so easily irritated as formerly.

Her people are anxious to get her home, and she is on the list to be discharged "relieved", in the hope that she may complete her recovery at home.

The results of the thyroid treatment in the foregoing eight cases were :- 3 recovered, 2 improved, 2 not improved and 1 probably prejudiced.

Although the thyroid treatment in insanity has not given such encouraging results as on the occasion of its initial trial; yet, I think, we are justified in using it in those cases of insanity where a recovery is hoped for, but where, for some reason or other, the chances of it seem to be getting more distant every day on account of the patient having, as it were, "stuck in the mud".

The thyroid in these cases seems to act in the form of an indirect cerebral stimulant, and, in the words of Dickson\* - "A gentle stimulus may set in motion the machinery of a mind that has ceased to act, and which without a reviving stimulation would have sunken into absolute and complete dementia."

The following gives the cases in tabulated form:-

# RESULTS of THYROID TREATMENT.

Number of Case	Form of Mental Disease	Length of time insane	Amount of thyroid taken, in grains per diem.	Length of time on treat- ment, in days.	Loss in weight after treatment (in lbs)	Result	Ultimate gain in weight i.e. over weight previous to treatment, (in pounds)
1.	Melancholia	5 weeks	45	7	12	Recovered	4
2.	Puerperal Insanity	1 year	45	7	11	Recovered	9
3.	Adolescent Insanity	9 years	45	7	11	Improved	12
4.	Adolescent Insanity	18 months	45	7	9	No change	2
5.	Adolescent Insanity	1 year	45	7	7	Prejudiced (probably) No change	8
6.	Adolescent Insanity	4 years	45	6	8	No change	4
7.	Puerperal Insanity	9 months	45	7	6	Recovered	23
8.	Adolescent Insanity	over 1 year	60	7	10	Much improved	15

SOME NOTES ON DRUGS .Sulphonal.

Is valuable in all forms of insanity, but more especially in those cases in which motor excitement is present. The most important element to attend to during the administration of sulphonal, is the condition of the bowels. Its action seems, somehow or other, to be delayed if the bowels are constipated, and its undesirable after effects - if they occur - to be also more marked.

Shaw\* remarks, in speaking of sulphonal, "The addition of hyd. c. cret. (gr. i, ii or iii) seemed to increase the certainty of its action."

Several instances have been recorded in which toxic, and even fatal, effects have been produced by this drug. A fatal result is recorded\*\* to have followed two doses of 15 grs. given one hour and a quarter apart; death was reported to be caused by apnoea. It was not reported in this case whether heart disease was present or not.

In another case\*\*\* death from syncope occurred in a young man seventy hours after he had taken 50 grs. for insomnia.

\* "Epitome of Mental Diseases", p.244.

\*\* "Lancet", Vol.2, 1889, p.1191.

\*\*\* "Munch. Med. Woch." April 6, 1897.

Oswald\* recorded the case of a woman who had taken 2,200 grs. of sulphonal in a little over three months with no untoward symptoms until suddenly she developed signs of collapse with paralysis of the voluntary muscles, and died in ten days.

On the other hand, cases have been reported in which a very large first dose was taken, and, beyond a lengthened sleep, no bad effects were observed. Haematoporphyrinuria has been observed in a number of cases in which sulphonal was administered, and Oswald\*\* attributes the fatal result, which has ensued in some of these cases, to "accumulative action of the sulphonal affecting the adrenals and leading to such a destruction of blood and to such an accumulation of the decomposition products of haemoglobin as to give rise to serious effects on the nervous system and to death."

G. M. Robertson\*\*\* found supra-renal disease at the post mortem on a woman who had died with the signs of haematoporphyrinuria after the administration of sulphonal.

Circumstances being equal, individual idiocynerasy plays a very important part in the action of sulphonal; and women, as a general rule, are more

\* Glasgow Med. Journ." Jan. 1895.

\*\* Journ. Ment. Science, Jan. 1895, p.165.

\*\*\* " " " " " p.168.



susceptible to the drug than men, and require a smaller dose.

I have seen a few cases in which the toxic effects of the drug occurred. The following case was one of the most marked:-

A.F., male, aged 36, a patient the subject of genitous idiocy, and reported by Ireland\* to have once been a supposed case of "double personality," has exhibited the toxic effects of sulphonal on at least three occasions.

At times he is the most noisy patient in the asylum, slapping the side of his head, tearing the skin off his face, grunting and squealing for hours on end unless he can be got under the influence of a sedative. He is worst at night, and, though in a single room away from everybody, his noise is quite sufficient to keep all on his side of the house awake.

Many drugs have been tried with him, but the only two which have at all succeeded in quieting him have been opium and sulphonal, and the former drug was discarded as it upset his digestion and constipated him, and he is naturally inclined to constipation. On one occasion he had been having sulphonal for three weeks and with good results; it was then stopped and he continued quiet for over a month.

\* "The Blot upon the Brain" Ireland, p.340.



One morning, after this, he was so noisy that a dose of 30 grs. was given him, and, as he was no quieter at night, he received another 30 grs. Next morning it was noticed that he had great difficulty in walking. He walked with a half-drunken, half-ataxic gait; his visual sense of perspective was enfeebled and he felt for the arms of a chair when he was yet a foot or two off it. Two hours later he was much worse - being quite unable to stand, and if put into a chair he slowly slipped off it on to the floor. His lips, the tips of his ears, the alae of his nose, and his finger nails, were of a livid blue colour; the tongue was furred, his pulse slow, feeble and slightly irregular; his respirations were unaltered; the knee-jerks were absent; and on his arm being pinched he only withdrew it after a perceptible interval, and the attempt to withdraw his arm seemed beyond his muscular power. His pupils were medium and reacted very slowly to light, the conjunctival reflex was almost absent; his little intelligence was not blunted and he answered and smiled when addressed. His bowels - so far as was known - had not moved for four days; his urine was examined later, it was normal in colour and contained neither blood, albumen, or sugar. His condition was treated by the administration of calomel and pulv. jalap co., six grains of the

former to fifteen of the latter. He had a considerable movement of the bowels within five hours and at night was able to walk very fairly, but had quite a perceptible stagger on turning round; his knee jerks were now present. In another twenty-four hours he was all right again.

On one or two occasions since, he has shewn symptoms of the toxic effects of sulphonal as evidenced by his gait, etc., but a history of constipation has always been elicited and the symptoms have disappeared under the same treatment as before; the sulphonal, of course, being stopped at the same time.

The toxic effects in this case never occurred during the periods he was on sulphonal regularly for a lengthened time - probably because the Attendant had been warned against allowing the patient to become constipated - but shewed themselves after the administration of one or two 30 gr. doses following on two or three weeks abstinence from the drug, and it is probable that his bowels were not so well attended to, during that period.

Another case of Sulphonal poisoning occurred here in the case of a woman 48 years of age who was suffering from excited melancholia with motor restlessness and insomnia, and had been greatly benefited by sulphonal.

The symptoms shewed themselves suddenly one morning after she had been getting the drug for 24 days, and had had a dose of 30 grs. the night before. During this period of twenty-four days not more than 300 grs. had been taken by her, and at no time had she had more than 45 grs. during <sup>the</sup> twenty-four hours. She exhibited symptoms of collapse; as in the former case, there was marked lividity of the lips, ears, and finger nails; her tongue was dry and furred and her lips and teeth were coated with dried saliva; her skin was cold and clammy; temperature sub-normal; she had been sick and had vomited twice; her pulse was slow and of poor tension - she was not the subject of heart disease; her muscular power - as estimated by her hand grip - was very weak, her gait was not ascertained as she had been kept in bed all morning. Her urine was of a rich port-wine colour, and contained neither blood, albumen, or sugar; a sample of it was sent to Dr. Noël Paton who examined it for sulphonal with a negative result. She passed purplish-red urine up to the fourth day after the symptoms had first appeared, the colour of the urine gradually fading in depth of tint. The amount of urine passed during the twenty-four hours appeared to be less than normal. Her intelligence remained unclouded throughout the symptoms; the knee jerks in this case were also absent. She was treated with calomel and jalap

powder, and fed on milk and whiskey. She appeared to be much better next day, and, quickly improving, was allowed up in a week.

The alteration in gait produced by the toxic effects of sulphonal is very like that of locomotor ataxia; but, if anything, is more reeling in character and the person sways when standing with his feet together, even though his eyes be open.

Percy Smith\* has reported five cases of sulphonal poisoning in women and in one of them he noticed that "she was unable to stand alone".

The amount of coordination of the upper and lower extremities generally varies, it is not noticed unless the person is too much under the influence of the drug.

Gordon\*\*, in some experiments with sulphonal, noticed occasionally "incoordination of the arms." There is always marked delay in the appreciation of external sensations.

A further stage of poisoning is reached, when the knees become groggy and the person's legs, as it were, giving way, he simply slips down on to the ground.

\* "Lancet" Vol.2., 1889, p.1051, et seq.

\*\* "Brit. Med. Journ." March 29, 1890.

Sulphonah is said to have no depressant action on the circulation, but persons with heart disease require a smaller dose, for they, as a rule, are more susceptible to it.

If mitral disease be the form of cardiac affection present, sulphonah should, apparently, be given with caution; especially if the systemic symptoms of the disease be present.

Two or three cases of mania, occurring in patients the subjects of mitral disease, have been treated here with sulphonah, and in all of them the drug acted more quickly than normal, and in all of them symptoms of cardiac and respiratory embarrassment were induced after moderate doses had been given for a day or two.. Lividity of the lips and face generally, together with a slowing and slight irregularity of the pulse were present, to a more or less degree, in each case. These symptoms were not apparent after Trional had been administered to these cases as a substitute for the sulphonah.

Lividity of the finger nails and a slightly bluish-dusky colour of the face is nearly always present in every case where the patient is fully under the influence of sulphonah, and, if the person have heart disease, these signs generally appear more

quickly and are induced by a smaller dose.

When these signs appear (generally before there is any alteration in gait), it is advisable to discontinue the drug till they have passed off. But, where excessive motor excitement occurs in a patient with heart disease an extra strain is thrown on the heart, and it is more than probable that the administration of a motor sedative in such a case will be more beneficial than otherwise, provided that the dose of the chosen sedative be regulated and its effects watched.

Sulphonal is of great benefit in nearly all forms of mania or in case of insanity where motor excitement is present. Where the excitement is chiefly emotional, as in some cases of excited melancholia, it is, sometimes, not so efficacious. In the insomnia of simple melancholia one moderate dose will often induce the sleep habit for the next two or three nights.

It is valuable in the insanity of adolescence, but should be given cautiously in young girls, if marked anaemia be present.

Sulphonal will often abort the excited stage in the cycle of folie circulaire, if it be given

immediately on the patient showing signs of returning mania by an alteration - however slight - in his speech, manner or conduct. In cases of folie circulaire where the mania comes on suddenly and without warning, as it sometimes does, (though a cause can generally be discovered), a large dose of sulphonal given at once sometimes succeeds in cutting short the attack.

In the motor restlessness, and fidgety meddlesomeness characteristic of some cases of senile insanity, it is a valuable sedative in moderate doses (15 - 20 - 25 grs.) given on rising in the morning; and sulphonal is probably the most certain and most effectual of all the so-called "day sedatives" used in insanity.

It is also valuable in the peculiar restlessness of physically enfeebled epileptic patients (generally in a constant state of stupor) as these patients are liable to injure themselves by falling etc., during their attacks of restlessness - often lasting for some hours on end.

In the impulsiveness, or even fury, which the strong, muscular epileptic sometimes gives vent to, before his fit, sulphonal is inferior to trional on account of the time it takes to act.



It appears to be given best in some warm milk, and another advantage of this medium is that the colour of the two coincide. A combination of sulphonal and trional gives better results than the former drug alone, and the desired effect is more rapidly induced. An average powder would consist of 15 grs. of each drug, but when a prolonged sedative effect is desired, it is better to increase the sulphonal and diminish the trional.

#### Trional.

Has apparently the following advantages over sulphonal:-

1. More rapid action - very often in less than 15 minutes.
2. Less liable to produce (or induce) after effects.
3. More soluble.

Against these advantages are, (1) its cost, which is double that of sulphonal, (2) its sedative effects are more transient.

#### Paraldehyde.

Largely used on account of its safety, tolerable certainty, and efficacy in inducing a very natural sleep without any pronounced ill effects.



It is most useful in the insomnia accompanying the milder forms of insanity, especially the early morning sleeplessness of melancholia.

Melancholic patients (especially those whose symptoms are not very pronounced during the day) very often go to sleep at bed-time, but wake up, often suddenly, between twelve and one in the morning in a state of misery and sometimes terror. Paraldehyde, on account of the rapidity of its action, is very beneficial in this type of case. It is serviceable in all forms of melancholia and often succeeds (especially if combined with bromide of potassium) in those cases where emotional excitement is pronounced, and in which sulphonal often fails.

It is useful in the insomnia of simple chronic mania and of senile insanity, though in the latter it is inferior to moderate doses of sulphonal, but paraldehyde is safer if there is any cardiac weakness.

In acute mania, or in any form of insanity where motor excitement is a prominent symptom it is nearly always useless as an hypnotic; unless the motor excitement has already been more or less controlled by a sedative (such as sulphonal), paraldehyde may then be given with advantage at night (if required), instead of having to administer a further dose of the

the sedative.

One dose of paraldehyde given at bed-time will generally suffice, at other times it will not and the patient awakens three or four hours later. In these cases it appears to be better to give two doses four or five hours apart than to give one large dose to commence with. Some patients are very susceptible to it, others again are not, and in these latter cases it is better to try the effect of some other hypnotic (which often succeeds) than to give large doses of paraldehyde. Generally speaking a dose of less than a drachm ~~and a half~~ is of almost no use in insanity, the average dose being probably one to two drachms. The addition of a little bromide of potassium seems to increase the certainty and efficacy of its action. The odour which it imparts to the breath is of course well known; but in patients who have been taking the drug for some time, a dryness of the mouth and fauces is often present. These cases always complain of thirst and drink large quantities of water, and the symptoms cease on stopping the drug. Tremors of the hand and fingers are also sometimes seen and the patient spills a full glass of water in carrying it to the lips.

Paraldehyde should always be given well diluted, especially if the tongue looks at all "raw", and it is better to withhold it altogether if there are any signs of gastritis present.

If there is an element of hysteria in the insanity, it is better not to give paraldehyde as these patients often develop a craving for the drug. Irish patients - especially women - are very fond of it.

### Opium and Morphia.

The use of these drugs in mental disease is condemned by some authorities, commended by others.

Clouston\* condemns their use in melancholia and mania on account of their prejudicial effect on appetite and nutrition in these cases. Ward\*\* used hypodermic injections of morphia in small doses with success, in some cases of mania and melancholia.

Mickle\*\*\* also recommended small doses of morphia; and remarked of it - in connection with his cases - "stimulating and tonic effects were sought; narcotism or any modification of it, was studiously avoided." He condemned its use later§ and noticed changes in the texture and colour of the skin in insane patients treated with morphia. Small doses of morphia were also recommended by Savage§§.

Opium and morphia have been used here, but their effects have been varying and inconstant.

\* Op. Cit: p.127 and p.170.  
 \*\* "West Riding Asylum Reports". Vol.1.  
 \*\*\* "Brit. Med. Journ." June 6, 1874.  
 § "Practitioner", Vol.1. 1881.  
 §§ " " " 1887.

When morphia was administered I used a solution which contained Morph. Acet. gr.  $\frac{1}{4}$  and Atrop. Sulph. gr. 1/50 to every 5 minims, and on almost all occasions when the morphia was used by itself and without the atropine some gastric disturbance ensued. The following was a case where hypodermic injections of morphia were of great benefit.

J.O., female, aged 36, had been resident for over a year, labouring under suicidal melancholia of a very acute type. Previous to admission she had attempted to drown herself in the Tay.

She generally became depressed at her menstrual periods, was very suicidal at these times, refused her food and had to be fed with the tube. During these periods of depression she had to be constantly watched and was very restless. Insomnia was marked and she would sit up in bed at night staring in a semi-stuporose condition at the wall opposite, with a miserable expression on her face and her eyes filled with tears. During these depressed "turns" she would lose over 9 lbs. in weight, regularly.

All drugs tried had had almost no effect. The morphine and atropine solution was first used at the commencement of a depressed attack in June 1897. Five minims of the solution were injected twice a day (morning and evening) for a week.

The morphia apparently succeeded, either in cutting short the attack, or in lessening its severity. After the first two nights she slept very well; lost only one pound in weight and voluntarily took her food.

For eight months now she has not had an attack of any consequence and has only had the morphia on one or two occasions.

She is quite cheery now, but becomes slightly dazed, resistive and melancholic at her menstrual periods, but remains in this condition only for a day or two and is benefited greatly on these occasions by strychnia in large doses.

Opium has been of benefit as a sedative in some cases of chronic mania; but in patients over the age of 50 it apparently does more harm than good. It should not be given in cases of Melancholia where visceral delusions are present, or in those cases where the delusions are concerned with morbid sensations in the head - generally women patients of an hysterical temperament.

#### Bromide of Potassium.

The acne-like skin eruption induced by large doses of this drug taken for some time, is more

commonly seen in cases of petit mal than in grand mal.

In epileptics taking large doses of potassium bromide, "blue-oedema" of the hands is generally only seen in cases where a certain element of stupor is present and where the patient makes no use of his hands. It is not seen in the epileptic women who knit, etc. or in the men who work. The woollen mits worn by these stuporose epileptics, for the protection of their hands in winter, are much inferior to gloves of the same material, as the former offer no protection to the fingers, and a chilblain in a debilitated epileptic is very troublesome to treat.

Potassium bromide is, of course, one of the best adjuvants to other sedatives and hypnotics.

#### Calomel, etc.

Attention to the intestinal tract is of much importance in the insane. Constipation is, of course, a recognised symptom of melancholia. It is always a matter of argument whether the constipation in some cases, may not be antecedent to the depression and a cause of it. In some cases it appears to be so, and especially in women at the climacteric period. These cases - generally spinsters or widows - who have been living in lonely, inaccessible, country

districts - as exist in Perthshire,- are admitted to the asylum in a state of very evident depression which entirely disappears on their bowels being thoroughly cleaned out with calomel followed by the usual draught. These cases are soon discharged; but generally turn up in two or three months with exactly the same symptoms; they have sometimes ridiculous delusions, and their morbid fancies are nearly always concentrated on their cranial contents.

It is easier, and at the same time more convenient, to give calomel in the shape of a lozenge than in the form of a powder; and the insane, who are curiously suspicious, will take a lozenge when they will refuse a powder. If the patient cannot swallow the lozenge, it can easily be crumbled into a powder and given in the usual way. The change which ensues in the mental condition of a recently admitted case (especially if melancholic) after an initial dose of calomel is often most marked.

Fothergill and Murrel\* advance a theory regarding those "cases of melancholia attendant upon scybalae in the lower bowels", where "the intelligence is unaffected, and the patient merely seems to see everything through sepia-tinted spectacles." They attribute it to anaemia confined to the occipital lobes of the cerebrum and due to vaso-motor spasm.

\*."Practitioner's Handbook of Treatment", p.563 et seq.



They base their theory on the fact that the vaso-motor nerve supply of the vertebral and carotid arteries is "quite distinct" and "judging from analogy" the afferent fibres from the viscera probably ascend by the same route as the efferent fibres descend, and therefore, ultimately passing up the vertebral arteries, give rise to "anaemia of the posterior cerebral lobes from arteriole spasm, the result of distant irritation;".

Constipation should be guarded against in epileptics, as these patients are very often the subjects of either herniae or haemorrhoids; and if one sees an epileptic with a remarkably clear, pink-and-white complexion, he will often be found to be suffering from haemorrhoids which have been bleeding for a day or two. Epileptics with haemorrhoids have a characteristically tender, "cautious" gait, when their affliction is troubling them. Attention to the bowels of these epileptics is probably as important, in averting the skin-eruptions of bromism, as is the giving of the bromide of potassium well diluted with water.

The average chronic demented lunatic is an enormous eater; his voraciousness, in some cases, increasing more and more as his mind deteriorates, till finally, he will swallow anything. He, accordingly, is very liable to disorders of the alimentary system; and, in him, diarrhoea is much more common than constipation.



The diarrhoea, in nine cases out of ten, is irritant in its origin and disappears after one or two moderate doses of castor oil.

Murray\* has used calomel with success in acute furious mania by giving it in one large nauseating dose.

### Hyoscine.

When injected hypodermically sometimes succeeds in producing rapid motor tranquillity in a sudden outburst of maniacal excitement, especially in some epileptics; but hyoscine is a very uncertain drug and often fails to produce any effect whatever, even when given in the maximum dose to a strong, vigorous patient. Merck's preparation of the drug seems to be the most reliable. An injection of gr.1/2000 is often beneficial in quieting the peculiar excitement of senile mania.

### Naphthalin.

It is a very good disinfectant and deodoriser in those cases of insanity where the stools passed have an abominably offensive odour which fouls the air of the ward for some hours.

\* "Rough Notes on Remedies". p.63 et seq.

These cases are generally bed-ridden and suffer from either, senile dementia, general paralysis, or in a few cases, organic melancholia. In all of them there is, probably, incurable enervation of the intestinal tract.

Ten grains of naphthalin can be given in the morning and again at night; after a week or so ten grains per diem will generally be found sufficient and it can be given intermittingly as its deodorising effects seem to last for some time.

Burroughs, Wellcome & Co. have made it up in the form of a five-grain tabloid.

Lauder Brunton\* says of naphthalin, "it has perhaps a greater power of deodorising disagreeable motions either in the child or in the adult than anything else with which I am acquainted."

\* "The Action of Medicines", p.76.

RECOVERY FROM INSANITY AFTER AN ILLNESS.

Some cases have been recorded where an illness, occurring during the course of a mental affection, has terminated the latter.

Clouston\* says - "I have seen many cases cured by a crop of boils, a carbuncle or an attack of erysepelas, and in one case by an attack of dysenteric diarrhoea."

Maudsley\*\* also refers to it in relation to recovery from mania, but is rather sceptical, and regards its occurrence as more "opportune" than anything else.

On the other hand, Wagner\*\*\* recommended the artificial production of a mild fever in insanity by means of pure cultures of the virus of erysipelas. He found, from statistics, that typhoid fever occurring in the insane was followed by more mental recoveries than any other exanthemata.

Wetz§ has recorded the case of a man who "became affected with the delirium of persecution and was so violent that he had to be placed in confinement," suddenly recovering his reason after an attack of Influenza when he had been insane for one year.

\* Op. Cit., p.129.

\*\* "Pathology of Mind", p.289.

\*\*\* "Brit. Med. Journ." June 4, 1897.

§ " " " Vol.I., 1890, p.1362.

McKenna\* has also recorded two cases of recovery from mental aberration following after an attack of facial erysipelas when both patients had been insane for some years.

Wagner\*\* thought there was more chance of recovery if the patient was attacked with one of the exanthemata "within six months of the commencement of his insanity."

Two women who have been patients in this asylum for some years, were attacked with typhoid fever: marked mental improvement was observed in both cases after the subsidence of the fever, but both relapsed into their former mental condition within a month.

The following are two cases of recovery from mental disease, occurring after a feverish condition, and in both, the patient's recovery was, I think, "more than a mere coincidence".

1. C. A. McF., female, aged 36, formerly domestic servant. She became insane at the age of 33 and had two relapses since then. She laboured under mania, chiefly of a delusional type, had delusions of persecution, was very suspicious and quarrelsome, and, though a good laundry worker, she had to be removed

\* "Pittsburg Med. Review" March 1887.

\*\* "Op. Cit."

from there on account of her frequently assaulting her fellow-patients, imagining they were "saying things against her.

At home she had been violent, unsociable, had assaulted her father, and created disturbances in the streets over religious matters. On this occasion she had been in the asylum for one year and nine months and had made no mental improvement whatever.

She had a pretty sharp attack of Influenza associated with slight pneumonic symptoms, which seized her on the February 23, 1897. From this she made a good recovery.

After the illness she became a changed woman altogether. The sullen, frowning, expression had vanished from her face and she was more sociably disposed towards her fellow-patients. Her delusions had disappeared and she had a good word to say of everybody.

She was finally discharged "recovered" April 10, 1897 and her recovery has been maintained at home.

2. C. McL., female, aged 44. Factory worker. 2nd attack. First became insane at the age of 40, previous to which she had been "queer in her conduct for years" and had had an illegitimate child at

the age of 25. Was addicted to alcohol and all the family had been "confirmed drunkards."

She was labouring under the mania of persecution, but had occasional spells of melancholy with semi-stupor. She had changed from one factory to another and in each new place she imagined one or other of her fellow workers was "plotting against her."

In many ways she was much the same sort of case as C.A.McF., but was more impulsive and given to assault; was suspicious of everything, and occasionally refused her food. She looked like developing into "a chronic case."

She became affected with an attack of Tonsillitis on October 19, 1897. Her temperature on three occasions rose to 103°. She was very troublesome and suspicious, and smashed one or two of her eating utensils. As the inflammation persisted in the tonsil, and was causing much difficulty in breathing, it was painted with cocaine and opened in the usual manner. Pus was present. She made a good recovery.

As in the former case mental improvement was very rapid, and she was soon good friends with everybody and an industrious worker. She was discharged "recovered", December 1, 1897.



TYPHOID FEVER IN EPILEPSY .

A case was mentioned in the "British Medical Journal" of July 30, 1881, of a robust man who, when recovering from typhoid fever was attacked with epileptic fits and died during the attack.

In this case nephritis had developed during the fever and "casts" were found in the urine.

The man had four convulsive seizures; and his rectal temperature, at the time of the seizures, varied between 101°.6 and 104°. A lower temperature had been expected on account of the supposed uraemic origin of the eclampsia. "Meningeal congestion of the Pons Variolii" was the only lesion of the nervous system observed post mortem.

The following was a case in which epileptic convulsions occurred during the course of an attack of typhoid fever in an epileptic patient.

L.C., male, aged 38, an epileptic dement, in fair bodily health, but saturated with the bromide treatment, was attacked with typhoid fever in January 1897.

Prior to this date, his fits occurred pretty regularly every four or five weeks; his seizures were rather severe and he generally had two or

three on the same day. His epilepsy started when he was 15 years of age, and after that he had often 6 to 40 fits in the same day. No history of injury. His paternal grandfather and grandfather had both been insane. The bromide treatment was discontinued during the fever.

The typhoid fever was not of a very severe type, but it weakened the patient very much; his muscles wasted rapidly and stimulants had to be given early on account of cardiac weakness. He had a mild epileptic seizure one evening during the third week of the fever, his temperature at the time being  $104^{\circ}.6$  and it rose another degree shortly after the convulsive attack.

During the fourth week he had another seizure, this time much more severe, when his temperature was  $103^{\circ}.8$ . After the fit his heart and pulse were very feeble, strophanthin was injected hypodermically and he was sponged, in order, if possible, to prevent a further rise of temperature. The injection of strophanthin was continued for a day or two after this on account of signs of cardiac weakness.

He made a good recovery from the fever, and had not another epileptic seizure till April 7, 1898.